Oak Ridge Health Study Document Summary Form

#2706

DOCUMENT TITLE: White Wing Scrap Yard

DOCUMENT NUMBER OR IDENTIFIER: ——

AUTHOR(S): H.M. Roth; A.M. Weinberg; ~~E.V. Witkowski~~; M.E. Ramsey; ~~D.A. Witherspoon~~; D.A. Witherspoon

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SOURCE/LOCATION OF DOCUMENT: X-10 DF - 1969; Waste Disposal

DOCUMENT CATEGORY

AI [DL dr dc da] [ED ea ew es ef] EP [HO hp hr hs hw] IN IP ([ST] sa sw ss] TM WP

Primary category - circle once; Secondary category (optional) - circle twice. Circle only one in a bracketed group.

DATE ENTERED INTO DATABASE: BY: InMagic No.

KEYWORDS: White Wing Scrap Yard; Witherspoon; plutonium

ABSTRACT:

Letters regarding proposed sales contract for clearing up the White Wing Scrap Yard. The scrap yard contains contaminated scrap from X-10, Y-12, and K-25. Part of the X-10 scrap may be contaminated with plutonium.

#2706

REVIEWER: G M Bruce **DATE REVIEWED:** 5/7/96

Classification Categories

UNK Classification Status Unknown
UNC Unclassified
OUO Official Use Only
UCNI Unclassified Controlled Nuclear Information
CL Classified

Categories of Classified Information

RD Restricted Data
NSI National Security Information
FRD Formerly Restricted Data

Levels of Classified Information

CONF Confidential
S Secret
TS Top Secret

Areas of Interest

K K-25 (ORGDP) Site
X X-10 Site / ORNL
Y Y-12 Site
S S-50 Site (Thermal Diffusion Plant)
ORR The Oak Ridge Reservation
MELT The Melton Hill Reservoir (Clinch from Solway bridge to Melton Hill Dam)
CLIN The Clinch River from Melton Hill Dam to the confluence with the TN River
WOC White Oak Creek
WOL White Oak Lake (White Oak Creek above White Oak Dam)
POPL Poplar Creek (Above the confluence with the East Fork)
EFPC East Fork Poplar Creek
PCE Poplar Creek Embayment (Poplar Cr. below the confluence of the East Fork)
BEAR Bear Creek
WATT Watts Bar Reservoir (the TN River from the confluence of the Clinch to Watts Bar Dam)

Document Categories

AI Accident and Incident Information
DL Demographic and Land Use Information
- **dr** residential (e.g. census data)
- **dc** crops (e.g. pasture, gardens, commercial crop production)
- **da** animals (e.g. beef and dairy cattle, game fish)

ED Environmental Monitoring and Research Data
- **ea** airborne contaminants
- **ew** waterborne contaminants
- **es** soil or sediment contaminants
- **ef** food product contaminants

EP Exposure Pathway Information (e.g. parameter references or assessments by others)
HO Historical Operations Information
- **hp** production activities (including pilot plant operations)
- **hr** research activities
- **hs** support activities
- **hw** waste disposal activities

IN Records of ChemRisk Personnel Interviews
IP Documents from Interested Parties
ST Source Term Information (measurements or information to support estimation)
- **sa** airborne releases
- **sw** waterborne releases
- **ss** releases to the soil

TM Transport Modeling Data (e.g. parameter references or modeling by others)
WP ChemRisk Work Products (plans, reports, calculations, notes, records of conversations)

UNITED STATES
ATOMIC ENERGY COMMISSION
OAK RIDGE OPERATIONS
P.O. BOX E
OAK RIDGE, TENNESSEE 37830

AREA CODE 615
TELEPHONE 483-8611

April 23, 1969

Cys fwd to:
F.R.Bruce
D.M.Davis
K.Z.Morgan
H.E.Seagren
4/30/69

Union Carbide Corporation
Nuclear Division
Post Office Box X
Oak Ridge, Tennessee

Attention: Dr. A. M. Weinberg, Director
Oak Ridge National Laboratory

WHITE WING SCRAP YARD

Gentlemen:

Reference is made to your letter of April 14, 1969, commenting further upon criteria for release of scrap at the White Wing Yard.

Our recent reviews with Carbide Purchasing personnel of White Wing operations indicate that the Witherspoon Company may be receiving insufficient scrap to make continuation of their activity there feasible. It is obviously very desirable from the standpoint of AEC and ORNL that the Witherspoon operation be continued, if at all possible, to avoid the diversion of programmatic funds for the burial of this scrap.

AEC criteria, for the release of radioactivity contaminated properties, permit release of materials, as uncontaminated, whose plutonium alpha readings do not exceed 1000 d/m/100 cm^2 with 100 d/m/100 cm^2 transferable. Alternative criteria permit 2500 d/m/100 cm^2 with an average of 500 d/m/100 cm^2, again with 100 d/m/100 cm^2 transferable. A copy of these criteria is attached for your use. In order to afford the best possibility that the work at White Wing may continue, it is requested that you commence employment of these release criteria. To assure meeting the transferable limits, Witherspoon should be required to steam clean each item of scrap to be removed to his Knoxville facilities.

ORIGINAL

Your continued efforts to facilitate the release of acceptable scrap will be appreciated.

Sincerely,

Herman M. Roth

Herman M. Roth, Director
Laboratory and University Division
Oak Ridge Operations

OS:JAL

Enclosure:
Proposed Criteria

cc w/o encl:
C. E. Larson, UCC-ND
R. C. Armstrong
C. W. Hill
R. H. Miller
J. A. Lenhard

PROPOSED CRITERIA

Surface Contamination Levels

Enclosure I

ISOTOPE[1]	TABLE I TOTAL[3]	TABLE I REMOVABLE[2][3]	TABLE II TOTAL[3][5]	TABLE II REMOVABLE[2][3]
U-nat, U-235, U-238 Th-nat, Th-232, and associated decay products	10,000 dpm α/100 cm^2	1,000 dpm α/100 cm^2	Average 5,000 dpm α/100 cm^2 Maximum 25,000 dpm α/100 cm^2	1,000 dpm α/100 cm^2
Other isotopes which decay by alpha emission or by spontaneous fission	1,000 dpm α/100 cm^2	100 dpm α/100 cm^2	Average 500 dpm α/100 cm^2 Maximum 2,500 dpm α/100 cm^2	100 dpm α/100 cm^2
Beta-gamma emitters (Isotopes with decay modes other than alpha emission or spontaneous fission)	0.4 mrad/hr at 1 cm[4]	1,000 dpm $\beta\gamma$/100 cm^2	Average 0.2 mrad/hr at 1 cm[4] Maximum 1.0 mrad/hr at 1 cm[4]	1,000 dpm $\beta\gamma$/100 cm^2

1. Where surface contamination by both alpha and beta-gamma emitting isotopes exists, the limits established for alpha and beta-gamma emitting isotopes shall apply independently.

2. The amount of removable radioactive material per 100 cm^2 of surface area shall be determined by wiping that area, with dry filter or soft absorbent paper and with the application of moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. In determining removable contamination on objects of lesser surface area, the pertinent levels shall be reduced proportionally, and the entire surface shall be wiped.

3. As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector and count rate meter, for background, efficiency and geometric factors associated with the instrumentation.

4. Measured through not more than 7 milligrams per square centimeter of total absorber.

5. Measurements of total contaminant shall not be averaged over more than 10 square meters. For objects of lesser surface area, the average shall be derived for each such object.

6. Either Table I or Table II may be used. For example, if all beta-gamma readings were less than 0.4 mrad/hr at 1 cm, Table I could be used; but if the maximum reading were 0.8 mrad/hr, material could be released under Table II providing the <u>average</u> was less than 0.2 mrad/hr.

Waste Disposal

CR

INTERNAL CORRESPONDENCE

NUCLEAR DIVISION

POST OFFICE BOX X, OAK RIDGE, TENNESSEE 37830

To (Name) J. A. Elkins
Division
Location Clayton Hall
Townsite

Date April 21, 1969
Originating Dept. ORNL
Answering letter date

Copy to F. R. Bruce, w/o attachment
D. M. Davis, w/o attachment
C. E. Larson, w/o attachment
K. Z. Morgan, w/o attachment
H. E. Seagren, w/o attachment

Subject Subcontract with Witherspoon, Inc. for White Wing Yard scrap

The draft of Subcontract No. UCNC-749, Supplement Agreement No. 7 for removal of ORNL Scrap from White Wing Yard has been reviewed and found unacceptable. Main points of nonconcurrence are:

1. We must reserve the right to determine whether or not any item can be moved to Knoxville. Mutual agreement as stated in Paragraph A-1 is not sufficiently restrictive for field enforcement.

2. The Purchaser should emphatically be made aware of the fact that the material he is contracting to handle does contain a plutonium potential and we cannot guarantee a specific level below which all material will read.

3. The Purchaser should emphatically be made aware that the material is not being sold to him on the basis it is free of contamination such that he in turn can sell it to the general public. Paragraph A-1 as written is misleading in this regard.

4. The Purchaser should be made aware of the possibility that plutonium contamination of his mobile equipment during loading and hauling operations and of the Knoxville Iron Works and environs during smelting operations may occur, and, if it does, neither the Agent nor the Government which is represented by the Commission is to be held responsible.

A copy of Alvin M. Weinberg's letter same subject, dated March 24, 1969, to Herman M. Roth is attached for your information.

It is suggested that a meeting with representatives of our Safety and Radiation Control Office, Health Physics and Plant and Equipment Divisions be held for further discussion prior to writing a final draft of Supplement Agreement No. 7.

M. E. Ramsey

MER:JRG:cs

Attachment

OAK RIDGE NATIONAL LABORATORY
OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION

POST OFFICE BOX X
OAK RIDGE, TENNESSEE 37830

March 24, 1969

OFFICE OF THE DIRECTOR

U. S. Atomic Energy Commission
Post Office Box E
Oak Ridge, Tennessee

Attention: Dr. H. M. Roth

Gentlemen:

White Wing Scrap Yard

In reply to your letter of February 14, 1969, we offer the following comments on the proposed sales contract for cleaning up the White Wing Scrap Yard.

As we have said in the past, we visualize a number of problems associated with the proposal of David Witherspoon, Inc. Some of them are: the amount of contamination-free material may be too small to be significant; Witherspoon's personnel may become contaminated and/or ingest radioactive material either during the removal of the scrap or its subsequent smelting; contamination of the Knoxville Iron Works and the environs during the smelting operation may occur; and, finally, metal contaminated with plutonium may be returned to commerce. However, if ORO has considered these possibilities and is willing to take the risk, the Oak Ridge National Laboratory is prepared to cooperate with Witherspoon in the proposed cleanup operation. We do, however, ask that the terms be to our economic advantage, namely, that the cost of the health physics monitoring which we must do to separate contaminated and uncontaminated material should at least offset the saving we realize by reducing the quantity of scrap which we return to the Oak Ridge National Laboratory burial ground. If at any time during this trial cleanup operation either Witherspoon or the Oak Ridge National Laboratory determines that the operation is not advantageous, then either party should have the right to terminate it.

If ORO desires to proceed with the plan, we suggest the following: ORNL will supply not more than two health physicists to monitor the scrap, providing also

that the demands of the Laboratory will permit the availability of this number. Pieces of scrap which can be monitored without extreme difficulty and having no more than 200 α dis/min/100 cm^2 may be removed by Witherspoon. Scrap which is contaminated above this level, or which is difficult to survey and has slight contamination (< 200 dis/min/100 cm^2), or which cannot be adequately monitored due to shape, paint, rust, etc., will either be loaded onto an ORNL vehicle by Witherspoon or set aside if no vehicle is available. This contaminated or unmonitored material will be removed to the ORNL burial ground. Because of the problem of surveying the material, we promise only a "best effort" and assume no responsibility for the consequences for any contaminated material which is removed from the site. The ORNL health physicists will also provide health physics advice to Witherspoon personnel on the site only; however, Witherspoon is to provide any protective equipment needed by his people and provide our health physicists with bio-assay samples as requested. All Laboratory responsibility for the materials removed from the site by Witherspoon ends at the time of departure.

Sincerely yours,

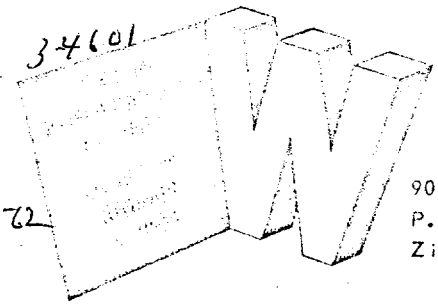
Alvin M. Weinberg
Director

AMW:cm

cc: F. R. Bruce
D. M. Davis
C. E. Larson
K. Z. Morgan

Don McCammon 34601

Klock Berkau 34162



david witherspoon, inc.

901 Maryville Pike • Knoxville, Tenn.
P.O. Box 806 • Phone 577-1613
Zip Code 37901 • Area Code 615

February 6, 1969

Mr. D. R. McCammon
Union Carbide Corporation - Nuclear Division
P. O. Box M
Oak Ridge, Tennessee 37830

Re: Sales Contract No. 749

Dear Mr. McCammon:

Confirming our conversation of February 4, 1969, we submit this unsolicited proposal for cleaning up the scrap designated as the X-10 portion of the White Wing Scrap Yard.

As you know, we completed removal of all scrap from the K-25 portion of this yard last summer. We anticipate cleaning out all of the Y-12 portion by April 1 of this year.

We understand part of the X-10 scrap may be contaminated with plutonium. Based on our experience in removing the Y-12 material up to the boundary of the X-10 scrap, we believe there may be enough metal free from plutonium contamination to make the clean-up of the X-10 scrap economically feasible. Before our personnel and equipment are moved out of the area, we contemplated that it might be desirable that we work in the X-10 scrap area for a short experimental period, removing for smelting all scrap except that contaminated with plutonium. In performing this trial work, we would propose that our equipment and personnel be confined to certain designated areas which would be under the constant surveillance of your health physicist or ours. We suggest that the designated area be inspected by your health physics team and that any portion of scrap which may be suspect in regard to plutonium contamination be designated for burial at locations selected by Carbide.

We suggest that the area set out for this trial run be large enough to keep our crew of two cranes and five laborers occupied for a period of thirty days, at the end of which period we can make a determination as to whether continued operation

would be economically feasible. If the operation would justify the continued employment of our equipment and personnel, then, based upon our experience in the K-25 and Y-12 portions of the White Wing Yard, we believe the X-10 portion on both sides of the road could be cleaned up in approximately six months.

If desired, our own health physicist, Mr. Bill Fields, can be assigned to this operation.

If you are interested in this offer of a thirty day trial run, we are willing to offer $ 50 for any scrap salvaged by us during this period, the scope of our services being generally the same as in previous clean-up operations conducted by our organization with which your office has been familiar.

Very truly yours,

David Witherspoon, Inc.

David A. Witherspoon
President

DAW:sk

Draft

SUBCONTRACT NO. UCNC-749
Supplemental Agreement No. 7

THIS SUPPLEMENTAL AGREEMENT, entered into this 14 [illegible] of Apr[illegible], effective April 1, 1969, by and between [illegible] UC[illegible] DIVISION, a corporation organized and exi[illegible] S[illegible] of New York, with an office located at Charlotte, [illegible] (hereinafter referred to as the "Agent"), and DAVID WE[illegible], address is Post Office Box 806, Knoxville, Tennessee 37901 (hereinafter referred to as the "Purchaser").

WHEREAS, the Agent has heretofore entered into Contract No. W-7405-eng-26 (hereinafter referred to as the "Principal Contract") with the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), as represented by the UNITED STATES ATOMIC ENERGY COMMISSION (hereinafter referred to as the "Commission"); and

WHEREAS, The Agent and the Purchaser have entered into Sales Contract No. UCNC-749, dated July 31, 1964 (hereinafter referred to as the "Subcontract"), for the removal, smelting, and purchase of certain Government-owned uranium-contaminated property (hereinafter referred to as "Scrap"); and

WHEREAS, the Purchaser as of the date hereof has completed work in the Y-12 and ORGDP portions of the White Wing Scrap Yard and the Company desires the Purchaser to remove the Scrap designated as the X-10 Plant Scrap from the White Wing Scrap Yard; and

WHEREAS, the Purchaser is willing to remove said scrap under the conditions hereinafter provided.

NOW THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth, the parties hereto mutually agree as follows:

A. The scope of the Subcontract is hereby increased as follows:

1. All X-10 Plant Scrap from the White Wing [illegible], except ductwork, pipe and other types of Scrap excepted by agreement, will be monitored by Company Health Physicist's and the Company agrees to sell and the Purchaser to buy the portion of the Scrap which falls within uranium-contamination levels under which the Scrap can be sold to the general public. Such Scrap may be disposed of by the Purchaser as clean Scrap, that is, as scrap not uranium contaminated. [illegible] Scrap shall be transported by Purchaser, at his expense, from the White Wing Scrap Yard to a burial area designated by the Company in the ORNL Plant Area; provided however [illegible] special packaging or handling techniques deemed necessary by the Company shall be provided by the Company at the Purchaser's expense. Scrap will be removed to Ground level and [illegible] may be burned at times and under conditions [illegible] by Agent.

2. The Purchaser shall remove the fences, gates, and posts, which enclose the White Wing Scrap Yard area. The fences, gates, and posts shall become the property of the Purchaser upon removal. The holes created by removal of fence posts shall be filled to ground surface level by the Purchaser.

3. The Purchaser shall dispose of (by burning or removal at Purchaser's option) the wood frame building in the White Wing Scrap Yard currently used by the Purchaser for storage, etc.

B. The additional removal work authorized in "A" above shall commence on or around April 1, 1969 and be completed on or before September 30, 1969.

C. In consideration of the Sale by the Agent of the material provided under paragraph "A" above, the Purchaser shall pay the Agent within 30 days after Purchaser's receipt of the Company's invoice the lump sum price of $50.00.

All other provisions, terms and conditions of the subcontract shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Supplemental Agreement as of the day, month and year first above written.

DAVID WITHERSPOON, INC.

By: President

UNION CARBIDE CORPORATION
NUCLEAR DIVISION
Acting under Contract W-7405-eng-26
with the United States of America

Authorized Representative of Agent

Form AEC-410
(1-61)

UNITED STATES
ATOMIC ENERGY COMMISSION

SOURCE MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 40, "Licensing of Source Material," and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, possess and import the source material designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission, now or hereafter in effect, including Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation," and to any conditions specified below.

Licensee	3. License No. SUB-587
1. Name David Witherspoon, Incorporated	4. Expiration Date May 31, 1969
2. Address 901 Maryville Pile Knoxville, Tennessee 37901	5. Docket No. 40-6764

6. Source Material	7. Maximum quantity of source material which licensee may possess at any one time under this license
Uranium and Thorium	Five thousand (5000) tons of scrap metal containing uranium and thorium surface contamination.

CONDITIONS

8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.)

This license authorizes the receipt, possession and transfer only of scrap metal containing natural uranium and natural thorium surface contamination provided that the scrap is packaged in accordance with appropriate United States Department of Transportation regulations at the time of receipt by the licensee.

9. Authorized Places of Receipt:

A. Scrap metal storage yards at any United States Atomic Energy Commission-owned facility;

B. United Nuclear Corporation
Hematite, Missouri; and,

C. Goodyear Atomic Corporation
Piketon, Ohio.

SOURCE

MATERIAL LICENSE

License Number SUB-587

Supplementary Sheet

REFERENCES

Licensee's application for license renewal dated April 27, 1966, and supplements for license amendment dated July 21 and October 18, 1967, and May 29 and August 16, 1968.

For the U. S. Atomic Energy Commission

OAK RIDGE NATIONAL LABORATORY
OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION
POST OFFICE BOX X
OAK RIDGE, TENNESSEE 37830

OFFICE OF THE DIRECTOR

April 14, 1969

U. S. Atomic Energy Commission
Post Office Box E
Oak Ridge, Tennessee

Attention: Dr. H. M. Roth

Gentlemen:

White Wing Scrap Yard

Reference is made to your subject letter dated April 2, 1969.

We agree with your opinion that the Health Physics monitoring criteria are quite restrictive. However, it is the opinion of our professional health physicists, in which we concur, that the established guidelines are minimum in their restriction for handling the scrap, and that even with these established guidelines some alpha contamination may be transferred to the scrap yard at Knoxville. We assume that you are aware of the fact that in transporting the ORGDP and Y-12 scrap from White Wing to Knoxville the contamination of Witherspoon's trucks has been at levels which grossly violate the rules and regulations set forth in Federal Register, Volume 33, Number 194, Department of Transportation.

We share with you the lack of understanding, at least in some degree, as to why weathering does not eliminate the alpha contamination. Weathering has probably had some effect in reducing the contamination, but as some of the flat surfaces exposed to the weather for a number of years still read more than 500,000 dis/min/100 cm^2 and as we do not have any idea of the level of the original contamination, it is difficult to assess the effect of weathering as a method of decontamination. We do know that in some of our hot cell work where surfaces are grossly contaminated some contamination normally remains even after cleaning with steam under pressure and with various acid solutions. Thus, it is not too surprising that weathering is not a very effective means of decontamination.

With reference to scratching on painted surfaces to determine if any alpha contamination has been eliminated, we do not feel that this technique would provide

adequate information on which to take action. As you know, many surfaces which are exposed to alpha contamination are painted prior to use. As the surfaces become contaminated additional coats of paint are applied to fix the contamination and reduce the probability of the material becoming airborne. The range of an alpha particle is such that it will not penetrate the paint whether the alpha particle is imbedded in the paint or it is on the material underneath the paint.

The ORNL Applied Health Physics Department is working with the Witherspoon Company in segregating the scrap, sending the grossly contaminated material and material which cannot be monitored to X-10 for burial, and releasing the uncontaminated material to Witherspoon for transfer to Knoxville. The program seems to be progressing very well, and it is anticipated that indeed all of the scrap will eventually be removed from White Wing by Witherspoon before he leaves the area. We will continue this cooperative effort and will keep you informed of any unusual problems which may arise.

Sincerely yours,

W. G. MacPherson
for

Alvin M. Weinberg
Director

AMW:cm

cc: F. R. Bruce
D. M. Davis
C. E. Larson
K. Z. Morgan

UNITED STATES
ATOMIC ENERGY COMMISSION
OAK RIDGE OPERATIONS
P.O. BOX E
OAK RIDGE, TENNESSEE 37830

AREA CODE 615
TELEPHONE 483-8611

CR

April 2, 1969

Cys fwd to:
K.Z.Morgan (2)
(F.R.Bruce rec'd bcc)
4/3/69

Union Carbide Corporation
Nuclear Division
Post Office Box X
Oak Ridge, Tennessee

Attention: Dr. A. M. Weinberg, Director
Oak Ridge National Laboratory

WHITE WING SCRAP YARD

Gentlemen:

Reference your letter of March 24, 1969.

We quite agree that the criteria for going ahead should be based upon the economics involved in the savings obtained over burial at ORNL and also that, if the operation is a disadvantage to either party, it should be terminated.

We do think that the Health Physics criteria are too strict in the matter of discarding at first look any material which has "paint, rust, etc." I should like to understand why weathering would not eliminate the alpha contamination or why a scratch on the paint would not determine if any alpha contamination had been eliminated.

We believe this additional risk is well worthwhile. We shall appreciate your cooperation.

Sincerely,

Herman M. Roth

Herman M. Roth, Director
Laboratory and University Division
Oak Ridge Operations

OL:HMR

cc: C. E. Larson, UCCND
R. C. Armstrong
J. A. Lenhard
R. H. Miller

ORIGINAL

OAK RIDGE NATIONAL LABORATORY
OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION
UNION CARBIDE
POST OFFICE BOX X
OAK RIDGE, TENNESSEE 37830

CR

March 24, 1969

OFFICE OF THE DIRECTOR

U. S. Atomic Energy Commission
Post Office Box E
Oak Ridge, Tennessee

Attention: Dr. H. M. Roth

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White Wing Scrap Yard

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Sincerely yours,

Alvin M. Weinberg
Director

AMW:cm

cc: F. R. Bruce
D. M. Davis
C. E. Larson
K. Z. Morgan

Maxwell [illegible] April 22, 1969

I wrote this mainly for myself - I have a lousy memory. I have not passed out any other copies.

Ed W

1. ~~A.E.Rupp~~ GM
2. MER

good —

↓